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to the Top of the Obelisc a gilded Ball, whose Use was to make the Shadow of the Extremity the more observable, as the middle Part of the Shadow of that Globe could readily be estimated; whereas the Shadow of an *Apex* would, at so great a Distance, be intirely imperceptible.

VI. *A Letter from the Rev. Mr. Mason, Woodwardian Professor at Cambridge, and F. R. S. to the Pr. R. S. concerning Spelter, Melting Iron with Pit-coal, and a burning Well at Broseley.*

S I R,

Read Jan. 22.
1746-7.

HAVING met with several Things, in a Ramble last Summer, that were new to me, and imagining they might be so to you likewise, and being of some Consequence, I presume to trouble you with a short Account of some of them.

What *Spelter* is I don't well know, nor what Uses are already made of it; but I believe it was never yet applied to so large a Work as the Cylinder of a Fire-Engine, till Mr. *Ford*, of *Colebrook-Dale* in *Shropshire*, did it with Success: It run easier, and cast as true as Brass, and bored full as well, or better, when it had been warmed a little; While cold, it is as brittle as Glass, but the Warmth of my Hand soon made it so pliant, that I could wrap a Shaving of it round my Finger like a Bit of Paper. This Metal

tal never rusts, and therefore works better than Iron; the Rust of which, upon the least Intermiſſion of working, reſiſts the Motion of the *Piſton*.

Several Attempts have been made to run *Iron Ore* with Pit-coal; I imagine it hath not ſucceeded any-where, becauſe we have had no Account of its being practiſed; but I find that Mr. *Ford*, from Iron Ore and Coal, both got in the ſame Dale, makes Iron brittle or tough, as he pleaſes; there being Cannon thus caſt ſo ſoft as to bear Turning like wrought Iron.

At *Broſeley*, about a Mile from the fore-mention'd Place, in the Year 1711, was a Well found, which burned with great Violence, whereof ſome Account is given in *Philof. Tranſact.* N°. 334; but it has been many Years loſt. The poor Man, in whoſe Land it was, miſſing the Profit he uſed to have by ſhewing it, applied his utmoſt Endeavours to recover it; but all in vain, till *May* laſt; when, attending to a rumbling Noiſe under the Ground, like what the former Well made, tho' in a lower Situation, and about 30 Yards nearer to the River, he happen'd to hit upon it again.

That you may have ſome Notion of what it is, I will lay before you ſuch an Account of it, as the curſory View I had will permit.

The Well for 4 or 5 Feet deep is 6 or 7 Feet wide; within that is another leſs Hole, of like Depth, dug in the Clay; in the Bottom whereof is placed a cylindric earthen Veſſel, of about 4 or 5 Inches Diameter at the Mouth, having the Bottom taken off, and the Sides well-fix'd in the Clay ramm'd cloſe about
it.

it. Within the Pot is a brown Water, thick as Puddle, continually forced up with a violent Motion, beyond that of boiling Water, and a rumbling hollow Noise, rising and falling by Fits 5 or 6 Inches; but there was no Appearance of any Vapour rising; which perhaps might have been visible, had not the Sun shone so bright.

Upon putting down a Candle at the End of a Stick, at about a Quarter of a Yard Distance, it took Fire, darting and flashing in a violent Manner, for about half a Yard high, much in the manner of Spirits in a Lamp, but with a greater Agitation. The Man said, that a Tea kettle had been made to boil in 9 Minutes Time; and that he had left it burning 48 Hours together, without any sensible Diminution.

It was extinguished by putting a wet Mop upon it, which must be kept there a small time; otherwise it would not go out. Upon the Removal of the Mop, there succeeded a sulphureous Smoke, lasting about a Minute; and yet the Water was very cold to the Touch.

The Well lies about 30 Yards from the *Severn*; which, in that Place, and for some Miles above and below, runs in a Vale full 100 Yards perpendicular below the Level of the Country on either Side, which inclines down to the Country at an Angle of 20 or 30 Degrees from the Horizon; but somewhat more or less in different Places, according as the Place is more or less rocky.

The Country consists of Rock, Stone, Earth, and Clay, unequally mix'd; and as the River, which is very rapid, washes away the soft and loose Parts, the next successively slip into the Chancel; so as, by degrees,

degrees, and in time, to affect the whole Slope of the Land : And as the inferior *Strata* yield Coal and Iron-Ore, their Fermentation may produce this Vapour, and force it to ascend with Violence through the Chinks of the Earth, and give the Water the great Motion it has. This might be obstructed in one Place by the foremention'd subsiding of the sloping Bank, and might afterwards find a Vent in another ; in like manner as it happen'd at *Scarborough Spaw*, a few Years since.

If these Hints should be any Amusement to you, or be the Means of setting any more able Person upon further Inquiries, and giving a better Account of them, I have all that is intended by

Jan. 18. 1746.

Your humble Servant,

Cha. Mason.

VII. *Part of a Letter from Mr. John Browning, of Bristol, to Mr. Henry Baker, F.R.S. dated Dec. 11. 1746. concerning the Effect of Electricity on Vegetables.*

Read Jan. 22.
1746-7.

HAVING an Operator at *Bristol* with a good electrifying Machine, I was desirous to electrise a Tree, and therefore sent him the following for that Purpose ; *viz. Laurustinus, Lencoinum majus flore pleno ferrugineo*, and *Stachas citrina Cretica*. These were not chosen with any Design ;